



# Gentoo X86 Handbook

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The Gentoo Handbook is an effort to centralize documentation into a coherent handbook. This handbook contains the installation instructions for an Internet-based installation and some additional sections for working with Gentoo's native software tools such as the OpenRC init system and the Portage package manager.

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## Installing Gentoo

### About the Gentoo Linux installation (/wiki/Handbook:X86/Installation/About)

This chapter introduces the installation approach documented within this handbook.

### Choosing the right installation medium (/wiki/Handbook:X86/Installation/Media)

It is possible to install Gentoo in many ways. This chapter explains how to install Gentoo using the minimal live image.

### Configuring the network (/wiki/Handbook:X86/Installation/Networking)

An operational network connection is necessary to access the internet, download the latest repository updates, source code, and software packages.

### Preparing the disks (/wiki/Handbook:X86/Installation/Disks)

Before Gentoo can be installed, a root file system layout and - optionally - other partitions need to be created. This chapter provides an overview of possible storage configuration for the installation.

### Installing the Gentoo installation files (/wiki/Handbook:X86/Installation/Stage)

The basic Gentoo operating system environment is downloaded as a stage 3 archive. This chapter explains how to download and extract the archive, and how to configure Portage - Gentoo's primary package management program.

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**Installing the Gentoo base system**

**(/wiki/Handbook:X86/Installation/Base)**

After installing and configuring the stage 3, the base system is set up so that a minimal environment is available.

**Configuring the Linux kernel**

**(/wiki/Handbook:X86/Installation/Kernel)**

The Linux kernel is the core of every distribution. This chapter explains how to configure and compile the kernel.

**Configuring the system**

**(/wiki/Handbook:X86/Installation/System)**

Some important configuration files must be created. This chapter provides an overview of these files and explains how to tailor the configuration.

**Installing system tools**

**(/wiki/Handbook:X86/Installation/Tools)**

In this chapter important system management tools are selected and installed.

**Configuring the bootloader (/wiki/Handbook:X86/Installation/Bootloader)**

In this chapter a secondary bootloader is installed and configured.

**Finalizing the installation (/wiki/Handbook:X86/Installation/Finalizing)**

The installation is almost complete! Finishing touches are documented in this chapter.

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(/wiki/Handbook:X86/Portage/CustomTree)
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# Working with Gentoo

**A Portage introduction (/wiki/Handbook:X86/Working/Portage)**

This chapter explains simple steps readers must understand to maintain the software on their system.

**USE flags (/wiki/Handbook:X86/Working/USE)**

USE flags are a very important aspect of Gentoo. In this chapter, readers learn to work with USE flags and understand how USE flags interact with their system.

**Portage features (/wiki/Handbook:X86/Working/Features)**

Discover the features Portage has, such as support for distributed compiling, ccache, binary packages, and more.

**Init script system (/wiki/Handbook:X86/Working/Initscripts)**

Gentoo uses a special initscript format which, among other features, allows dependency-driven decisions and virtual initscripts. This chapter explains all these aspects and explains how to deal with these scripts.

**Environment variables (/wiki/Handbook:X86/Working/EnvVar)**

Environment variables can be easily managed with Gentoo. This chapter explains how to do that, and also describes frequently used variables.

# Working with Portage

**Files and directories (/wiki/Handbook:X86/Portage/Files)**

To know Portage in-depth, first learn where it stores its files and data.

**Variables (/wiki/Handbook:X86/Portage/Variables)**

Portage is completely configurable, with several options that can be set in a configuration file, or as environment variables.

**Mixing software branches (/wiki/Handbook:X86/Portage/Branches)**

Gentoo provides software separated in several branches, depending on stability and architectural support. "Mixing Software Branches" explains how these branches can be configured and how to override this separation individually.

**Additional tools (/wiki/Handbook:X86/Portage/Tools)**

Portage comes with a few extra tools that might make the Gentoo experience even better. Read on to discover how to use **dispatch-conf** and other tools.

### **Custom package repository (/wiki/Handbook:X86/Portage/CustomTree)**

This chapter gives some tips and tricks on how to use a custom package repository, how to synchronize only the required categories, how to inject packages, and more.

### **Advanced features (/wiki/Handbook:X86/Portage/Advanced)**

As time passes, Portage evolves and matures. New features are continually being added. Many of these are useful only to the more experienced user. This chapter explains some of Portage's newer features.

## Gentoo network configuration

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### **Getting started (/wiki/Handbook:X86/Networking/Introduction)**

A guide to quickly get the network interface up and running in most common environments.

### **Advanced configuration (/wiki/Handbook:X86/Networking/Advanced)**

Here we learn about how the configuration works - this is prerequisite knowledge before continuing with modular networking.

### **Modular networking (/wiki/Handbook:X86/Networking/Modular)**

Learn how to choose different DHCP clients, setting up bonding, bridging, VLANs, and more.

### **Wireless (/wiki/Handbook:X86/Networking/Wireless)**

Configuring Gentoo for wireless networks.

### **Adding functionality (/wiki/Handbook:X86/Networking/Extending)**

Adventurous users can add their own functions to the networking tools.

### **Dynamic management (/wiki/Handbook:X86/Networking/Dynamic)**

For laptop users or people who move their computer around different networks.

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This page is based on a document formerly found on our main website gentoo.org (<https://www.gentoo.org/>).

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They are listed here because wiki history does not allow for any external attribution. If you edit the wiki article, please do **not** add yourself here; your contributions are recorded on each article's associated history page.

A handbook dedicated to installing and configuring the **x86** architecture.

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